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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-----------------------|------------------|
| 10/670,751 | 09/25/2003 | Miguel Dajer | IDS 125676 67,108-018 | 2766 |
| 26096 | 7590 | 12/21/2005 | EXAMINER | |
| CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009 | | | STEIN, JAMES D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2874 | |

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/670,751 | Applicant(s) DAJER ET AL. | |
| | Examiner James D. Stein | Art Unit 2874 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-15 and 17-22 is/are rejected.
- 7) ☒ Claim(s) 9, 16 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/25/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is responsive to the amendment filed on 10/03/05. New claims 21-23 have been added. Claims 1-23 are pending in the application.

Claim Objections

Claim 23 is objected to because of the following informalities: the word “fist” should be changed to “first” . Appropriate correction is required.

Response to Arguments

Applicant’s arguments, filed 10/03/05 with respect to the rejection(s) of the claims under 35 U.S.C. have been fully considered and are persuasive. It is noted that applicant did not traverse the merits of the Popoff reference itself in the rejection mailed 07/01/05. However, the Doucet et al. reference teaches away from radio frequency signals. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in over the Popoff reference further in view of applicant’s admitted prior art (“Description of the Related Art” in Specification). It is noted that *Popoff essentially discloses all of the structure of the claimed invention except for radio frequency signals*. In light of the specification and the common definition of “radio”, as claimed, a transceiver is a radio if it communicates using RF signals. Although it can be argued that a radio is not necessarily required to accommodate RF signals, but may communicate using other electromagnetic frequency bands instead, the Examiner assumes for examination purposes that the radio of the claimed invention employs RF signals.

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Since Popoff does not teach a specific frequency band of electromagnetic radiation to be used in the device, it is left up to an ordinarily skilled artisan to determine the communication frequency band. Applicant admits that tradition prior art wireless systems employ RF signals (page 1 lines 13-14). In this case, due to the widespread use and extremely well known nature and properties of RF signals in communications devices, and because Popoff could presumably accommodate RF signals, it would have been obvious at the time of the invention to one of ordinary skill in the art to ensure the transceivers 18 of Popoff were radio transceivers (communicating via RF signals) due to the widespread use and well-known properties of RF signals in communication systems.

For these reasons, Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

The indicated allowability of claim 4 is withdrawn upon further consideration of the Popoff reference in the new grounds of rejection. Rejections based on the new grounds of rejection follow below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 5-8, 10-15 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over [USPAT 4,943,136] to Popoff, and further in view of applicant's admitted prior art ("Description of the Related Art", specification, page 1, lines 8-18).

With regard to claim 1, fig. 1 of Popoff shows at least one transceiver 18 at a location remote from a backplane; and at least one communication link 12 coupling said at least one transceiver 24 to the backplane, wherein the communication link 12 carries signals between the backplane and said at least one transceiver 18 at the location remote from the backplane.

Therefore, Popoff discloses the claimed invention except for the transceiver 18 to be a radio. Since Popoff does not teach a specific frequency band of electromagnetic radiation to be used in the device, it is left up to an ordinarily skilled artisan to determine the communication frequency band. In the specification, applicant admits that RF signals (page 1 line 13) are traditionally used (page 1 line 8) in wireless communication systems (page 1 lines 8-14). Therefore, it would have been obvious at the time of the invention to ensure the transceivers 18 of Popoff were radio transceivers (communicating via RF signals) due to the widespread use and well-known properties of RF signals in communication systems.

With regard to claim 2, in addition to the rejection of claim 1 previously discussed above, said communication link 12 is taught by Popoff to be a fiber-optic cable (col. 1 line 21).

With regard to claims 3-4, in addition to the rejection of claim 1 previously discussed above, said backplane is shown by figs. 2 and 3 to further comprise a plurality of backplane cards 26 attached thereto in respective radio card slots 36/38 in the backplane.

With regard to claim 5, in addition to the rejection of claim 1 previously discussed above, fig. 1 shows a plurality of radio cards 10 respectively connected to the radio transceivers 18.

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With regard to claim 6, in addition to the rejection of claim 5 previously discussed above, figs. 2 and 3 shows the plurality of backplane cards 26 respectively connected to the backplane and the plurality of communication links 12 respectively connected to the backplane cards 26. Fig. 1 shows the plurality of communication links 12 respectively connected to the radio cards 10 via connectors 13 (col. 4 lines 20-26).

With regard to claim 7, in addition to the rejection of claim 6 previously discussed above, Popoff disclose a plurality of radio cards 10. Furthermore, fig. 2 shows an embodiment wherein each backplane card 26 is connected to the plurality of radio cards 10 via communication link 12. This is due to the parallel nature of the connection between the radio cards and backplane cards (as opposed to the serially connected embodiment of Fig. 3 wherein each backplane card is connected to a single radio card).

With regard to claim 8, in addition to the rejection of claim 6 previously discussed above, figs. 1-3 show the device comprises a plurality of radio cards 10 connected to a plurality of backplane cards 26 via a plurality of communication links 12, the backplane cards 26 being attached to the backplane.

With regard to claim 10, figs. 2 and 3 show a backplane fiber card 26 having a backplane connector 40; fig. 1 shows a radio fiber card 10 having a radio connector 13; and at least one fiber link 12 connecting the backplane fiber card 26 and the radio fiber card 10.

With regard to claim 11, in addition to the rejection of claim 10 previously discussed above, Popoff in view of applicant's admitted prior art disclose the claimed invention except for the backplane connector and the radio connector to have a standard configuration for connection to a backplane and a radio, respectively. It would have been obvious at the time of the invention

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to one of ordinary skill in the art to ensure the radio connector and the backplane connector each had a standard configuration for connection to a backplane and a radio, respectively, in order to facilitate interconnection of the radio and backplane.

With regard to claim 12, in addition to the rejection of claim 10 previously discussed above, the radio fiber card 10 and the backplane fiber card 26 each comprise an optical transceiver 18 connected to at least one fiber link 12 (col. 4 lines 23-26).

With regard to claim 13, in addition to the rejection of claim 10 previously discussed above, Figs. 2 and 3 show the backplane fiber card comprises a plurality of fiber links 32. Fig. 1 shows each fiber link (collectively 12) is connected to a radio card 10 via connector 13.

With regard to claims 14, 15 and 17-20, the method of transmitting a signal between a backplane and a remote radio is inherent to the disclosure discussed above in the rejections of claims 1-4 and 5-8.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Popoff/admitted prior art, and further in view of [USPAT 6,733,183] to Gregory, which discloses a dynamically configurable backplane. The claimed invention has been disclosed and previously discussed above except for a digital signal processing portion associated with the backplane. Fig. 1 of Gregory shows a digital signal processing portion (12, 14, 16, 18) associated with backplane 28. Gregory teaches that this arrangement facilitates processing all information signals within a single cabinet (abstract). Therefore, it would have been obvious at the time of the invention to include a digital signal processing portion associated with the backplane in order

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to include all signal processing within a single cabinet. It is noted applicant that the overall cabinet structure would comprise a "base station" as recited in the preamble of claim 21.

Allowable Subject Matter

Claims 9, 16 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regard to claims 9 and 23, none of the cited prior art discloses or suggests the wireless communication backplane system as discussed above wherein the system comprising at least one non-remote radio, wherein said at least one non-remote radio is plugged into a first radio card slot in the backplane and said at least one backplane fiber card plugged into a second radio card slot in the backplane and connected to said at least one radio card via said at least one communication link; wherein the digital signal processing portion is at a first location and comprising at least one other radio having a radio card received by a radio card slot in the backplane such that the at least one other radio is at the first location. With regard to claim 16, the method of transmitting a signal between a backplane and a remote radio is inherent to the apparatus as limited by claims 9 and 23.

Conclusion

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

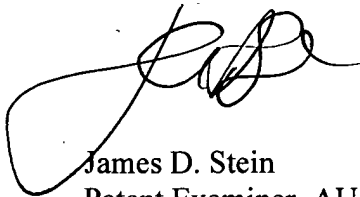
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evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Stein whose telephone number is (571) 272-2132. The examiner can normally be reached on M-F (8:00am-4:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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